

**PROPOSED COMMENTS FOR CNHi TO FFC ON IB DOCKET NO. 17-16**

CNH Industrial is a global leader in the capital goods sector that, through its various businesses, designs, produces and sells agricultural and construction equipment, trucks, commercial vehicles, buses and specialty vehicles, in addition to a broad portfolio of powertrain applications.

Since the mid-1990s, CNH Industrial and its constituent agricultural equipment brands have led the industry in utilizing precision technology to make farming as efficient, productive and sustainable as possible. Case IH's Advanced Farming Systems (AFS) and New Holland's Precision Land Management (PLM) packages were among the first to make use of GPS-aided systems to allow farmers to record their field activity, make non-overlapping passes, and variably-apply fertilizer and crop protection products, so that nothing is missed or wasted.

Continuous availability of precise positioning is vital to many farmers, who are faced with many challenges of rain, wet field, high winds, limited daylight and other conditions forcing operation into limited windows of operation. Agricultural operating environments are varied, and not assured of an unobstructed view of the sky. Turns at the end of a field are critical maneuvers for machinery, and are also where it is most common to have signal blockages from the tree rows and other obstructions that typically surround fields.



As an OEM supplier or range of farm equipment with integrated GNSS receivers on almost all products, we wish to provide comment on the specific ways reception of Galileo satellite signals would improve satellite navigation services. An increased number of usable signals will increase the availability of positioning information during conditions of partial sky blockages. Not only will a positioning solution be available in more conditions, the accuracy will be higher with access to more signals, and those additional signals will allow for more reliable statistical quality measures for the position solution. For example, even in the case of turning a large agricultural vehicle up against a tree row, approximately half the sky is blocked. Assume there are a total of 8 GPS satellites above the horizon, and they are evenly distributed across the sky. In the case of the tree row blockage, only 4 would be continuously tracked, resulting in a lower quality position solution and insufficient redundancy to provide reliable statistical quality measures. Less than 4 tracked would mean there was no GPS position of any type available. If there were an equal number of Galileo signals available during this time, it would effectively double the number usable signals, to a total of 8, which would allow the receiver to maintain a high quality position with sufficient redundancy to also provide very reliable statistical quality measures. The quality measures are necessary for the guidance system to operate properly.

We believe that the use of Galileo in our guidance and precision farming systems will increase the availability, accuracy and reliability of the positioning solution. We are not aware of any detrimental impact on GPS service availability, accuracy or reliability due to the reception of Galileo signals. We support the request by the European Commission (EC) for a waiver of the Federal Communication Commission's licensing requirements to permit non-Federal receive only earth stations to operate with signals of the Galileo Radio Navigation-Satellite Service system.

Thank you in advance for considering our comments.

Very truly yours,

Richard P. Konrath  
Vice President & General Counsel, North America